

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A method of processing and packaging goods, comprising:

- a) placing goods in an enclosed vessel containing a gas to enhance the keeping of the goods;
- b) allowing the gas to contact and dissolve in liquids and oils present in the goods;
- c) restricting the formation of oxymyoglobin by substantially displacing ambient air, that may otherwise contact the surface of the goods, with the gas;
- d) providing a retail package including two overlapping webs with a space therebetween, with at least one of the webs being gas permeable; and
- e) transferring the meats from the vessel to a position between the two overlapping webs and into the space without allowing significant formation of oxymyoglobin on surface of the meats.

2. A method as claimed in Claim 1, wherein the goods are fresh red meats and the gas is a substantially oxygen free gas.

3. A method of packaging goods, comprising:

- a) providing four or more overlapping web sections, the two outer, first and second, web sections being gas barrier webs, the inner web sections including folded, third web material with at least one cup-shaped depression therein that cannot nest together, and a fourth gas permeable web material with space between the third and fourth web sections;
- b) providing goods between the folded third web material and the fourth web material;
- c) sealing the folded third web material and the fourth web material so as to substantially retain the goods in the cup-shaped depression but allowing gas to pass into and out of the space;
- d) sealing chamber means closed about all of the overlapping webs after sealing the third and fourth web material but prior to sealing the first and second webs together at a seal path near the perimeter of the packaging which will provide a hermetically sealed package;

e) gas flushing the chamber means with a gas to enhance the keeping of the goods; and

f) sealing the first and second webs together by a sealing means which defines a seal path near what will be an outer perimeter of the packaging and which encloses the third and fourth web material within a hermetically and substantially gas impermeable package with the goods and the gas sealed therein and allowing the gas to contact the goods.

4. A goods packaging tray including a base with upwardly extending side walls that terminate at a flange that extends around a perimeter of the tray to provide a cup-shaped recess, the tray having at least one extension connected to the flange at a hinge, the extension including a cup-shaped flap that can be folded about the hinge and be sealed to at least one of the upwardly extending side walls to provide an enclosed space, the tray having apertures at a base of the side wall of the tray so as to provide communication between the enclosed space and the tray that will allow liquids to pass from the tray cup-shaped recess to the enclosed space.

5. Apparatus for producing packaging trays as claimed in Claim 4 including:

means for thermoforming plastics sheet to form and trim a packaging tray with a base and upwardly extending side walls that terminate at a flange that extends around a perimeter of the tray to provide a cup-shaped recess with at least one extension connected to the flange at a hinge including a cup-shaped flap that can be folded about the hinge and be sealed to at least one of the upwardly extending side walls to provide an enclosed space;

means to seal the flap to the tray wall around a perimeter of the flap; and

means to provide apertures in the side wall of the tray recess so as to provide a communication between the enclosed space and the tray recess.

6. A method of processing and packaging fresh red meats, comprising:

a) locating and processing the fresh red meat containing de-oxymyoglobin in a vessel with a gas that is substantially free of oxygen;

b) transferring the fresh red meat, with de-oxymyoglobin, from the vessel and into a substantially gas barrier package that contains a substantially oxygen free gas;

- c) sealing the fresh red meat, with de-oxymyoglobin, in the package; and
- d) performing steps a), b) and c) in such a manner so that any contact of the fresh red meat containing de-oxymyoglobin with atmospheric oxygen during the transfer, prior to subsequent exposure of the red meat with de-oxymyoglobin to ambient atmospheric gas after packaging, will be minimized to the extent that any oxymyoglobin that may consequentially become present at the surface of the fresh red meat, as a result of brief contact with any atmospheric oxygen, will not be subsequently cause generation of metmyoglobin to an extent that is visibly recognizable as a brown discoloration by human eye.

- 7. An apparatus for sealing a master bag, comprising:
 - a first vacuum chamber;
 - a second vacuum chamber suitably configured to mate with the first vacuum chamber enclosing a container with packages therein; and
 - a web dispenser to pass a web over the opening of the master container; and
 - a sealer to seal the web to the master container.
- 8. A method for processing meat, comprising:
 - placing meat portions in a pressure vessel that is substantially filled with CO₂ at elevated pressure to dissolve CO₂ in liquids and oils; and
 - packaging the meat portions with an overwrap web such that the web is in contact with a portion of the meat so as to hold toward the meat portion toward the base, such that when stacked below another similarly packaged tray, the meat does not contact the underside of the tray above it.
- 9. A method for shipping meat portions, comprising:
 - placing pre-rigor mortis meat in a perforated mold;
 - chilling the meat, but not allowing muscle fiber shortening to occur;
 - placing the molds with meat in contact with CO₂;
 - storing the mold with meat to allow a quantity of CO₂ to dissolve into the meat; and
 - package the meat.
- 10. A package for perishable goods, comprising:
 - a first web defining a base;

a plurality of first walls extending upwardly and outwardly from the base to define a depression in the web with an opening, wherein the perimeter of the opening defines a lip;

a plurality of second walls extending from the lip downward to define a space between a wall from the first walls and a wall from the second walls, wherein at least one of the second walls includes a ledge substantially level with the web base; and

a second web of gas-permeable material, wherein the second web is sealed or stretched on the first web in a low oxygen environment.

11. A method of processing perishable goods, the method having the following steps:

- a) placing goods in an enclosed vessel containing a gas to enhance the keeping of the goods;
- b) allowing the gas to contact and dissolve in water, liquids and oils present in the goods;
- c) restricting the formation of oxymyoglobin in substantially displacing ambient atmospheric oxygen in air, that may otherwise contact the surface of the goods, with the gas;
- d) providing a retail package comprising a substantially gas barrier plastics pouch; and
- e) transferring the goods from the vessel into a said pouch without allowing significant formation of oxymyoglobin on surface of the goods.

12. Improved packaging for perishable goods comprising:

a stackable base over which goods are placed, base having upwardly extending walls terminating at a peripheral lip extending around a perimeter of said base, and wherein each wall comprises an inner layer and an outer layer of plastics material, wherein said outer layer is substantially vertical to said base and said inner wall extends upwardly and away from said base, thereby providing a space between said inner and outer walls;

a web of gas permeable material, having two parallel edges, wherein said web is first sealed to itself along a path that is close to said parallel edges to form a tubular section, positioned with said base enclosed within said tubular section, and wherein said tubular section is stretched prior to further sealing to itself along second and third substantially parallel paths close to opposite ends of an end of said tubular section and perpendicular to said first seal, so as to hermetically seal and enclose said section and

base, and allowing said tubular section to shrink after severing from said web, and firmly contact portions of the outer surface of said base, walls and peripheral lip;

space within said tubular section with said goods and said base;

a gas in said space, said gas selected for enhancing preservation of the packaging goods by contacting the surface of said goods;

said gas contacting said goods by permeating said tubular section stretched over said goods and held to said packaging so said tubular section is maintained stretched to firmly contain said goods within the packaging; and

said tubular section permitting viewing of a major portion of an upper surface of said goods.

13. First package as claimed in Claim 12, wherein one or more are stacked together in a second substantially gas barrier master container fabricated from plastics material and having a substantially flat base with upwardly extending walls terminating at a lip extending around the perimeter of said base to provide a continuous wall, and thereby providing a cavity above said base and within said walls, into which said packages are stacked, and thereby fill said cavity with said first packages and space therebetween.

14. Master container as claimed in Claim 13, wherein a lid of substantially gas barrier web material is hermetically sealed to said lip after providing a suitable gas or blend of selected gases in said space and substantially displacing any residual oxygen.

15. Master container as in Claim 14, wherein an oxygen absorbing agent is provided into said space prior to hermetically sealing said lid to said lip.

16. Master container as in Claim 13, wherein an oxygen absorbing agent is provided into said space prior to hermetically sealing said lid to said lip.

17. Master container as in Claim 13, wherein an said master container is fabricated from substantially gas permeable materials.

18. Packaging as claimed in Claim 12, wherein said peripheral lip configuration is displaced in height from said base, and wherein said goods are contacting said base, and a portion of the upper surface of said goods is above the upper surface of said lip, and said tubular section extends over the top of said goods

and is held to a portion of the peripheral lip and a portion of the upper surface of said goods.

19. Packaging as claimed in Claim 18, wherein said base has a bottom displaced in height from a peripheral lip and wherein said goods are contacting said bottom, and a portion of said tubular section held to said packaging at a position below a portion of the top of said goods.

20. Packaging as claimed in Claim 19, wherein said tubular section is held to the bottom of said base.

21. Packaging as claimed in Claim 15, wherein a portion of the top of goods is below said peripheral lip and a portion of the top of said goods is above a portion of said peripheral lip.

22. Packaging as claimed in Claim 15, wherein the top of said goods is below said peripheral lip and there is provided a tubular section of gas permeable plastics material held to said peripheral lip with a space between said tubular section and the upper surface of said goods and a gas in said space for enhancing keeping of said goods by permeating said tubular section and wherein said package is removable from said gas barrier container and whereby oxygen can permeate said tubular section from atmosphere to bloom said goods to a red color following discoloring of said goods from extended packaging in an oxygen depleted gas.

23. Packaging as claimed in Claim 13, wherein said lid and said base of said gas barrier container are substantially gas impervious gas barrier material.

24. Packaging as claimed in Claim 13, wherein said lid and said base of said gas barrier container are substantially gas permeable material.

25. Packaging as claimed in Claim 12, wherein said base has four sides.

26. Packaging as claimed in Claim 12, wherein said base has three sides.

27. Packaging as claimed in Claim 12, wherein said base has more than four sides.

28. Packaging as claimed in Claim 12, wherein packaging materials used to manufacture said lid and said base have been treated with a bactericide that remains effective in killing bacteria, virus, and fungi after use of said base in packaging.

29. Packaging as claimed in Claim 28, wherein said base comprises a thermoformed, nestable, tray with a floor, walls and at least one flap attached by a hinge to a wall, wherein said flap comprises a cup shaped flap with at least one depression and a continuous substantially flat section at a path close to the perimeter of said flap, such that when folded against the corresponding wall a hermetic seal can be provided between said flap flat section and said wall enclosing a space between said walls.

30. Packaging as claimed in Claim 29, wherein capsules of any chosen agent or substance may be provided in said space between said walls.

31. Packaging as claimed in Claim 23, wherein apertures may be provided along the outer edge of said tray floor and at the lower section of said inner wall and thereby providing a communication between said cavity and said space between said walls.

32. Packaging as claimed in Claim 23, wherein a selected gas is provided in said space and all other spaces in said packaging and maintained at ambient pressure for a period of time after hermetically sealing said flaps.

33. Packaging as claimed in Claim 23, wherein a selected gas is provided in said space and maintained at a pressure above ambient pressure for a period of time after hermetically sealing said flaps.

34. Packaging as claimed in Claim 24, wherein said chosen agent or substance comprises a bactericide contained in a capsule that can be ruptured by exposure to micro wave, a magnetic field, or Radio Frequency from a remote source.

35. Packaging as claimed in Claim 24, wherein a web of plastics material containing an oxygen absorbing agent is laminated to a surface of said tray prior to fabrication, wherein said oxygen absorbing agent contained in said web of plastics material is only rendered substantially active and capable of absorbing oxygen after

exposure to a suitable micro wave source, magnetic field or radio frequency from a remote source .

36. Packaging as claimed in Claim 24, wherein a web of plastics material containing any desirable agent that can perform any desirable function such as a bactericide, is laminated to a surface of said tray prior to fabrication, wherein said oxygen absorbing agent contained in said web of plastics material is only rendered substantially active and capable of absorbing oxygen after exposure to a suitable micro wave source, magnetic field or radio frequency from a remote source .

37. Packaging as claimed in Claim 24, wherein said chosen agent or substance comprises a bactericide contained in a capsule that can be ruptured by exposure to micro wave, a magnetic field, or Radio Frequency from a remote source .

38. Packaging as claimed in Claim 24, wherein said chosen agent or substance comprises a liquid absorbing agent or gel contained in a capsule that can be ruptured by exposure to micro wave, a magnetic field, or Radio Frequency from a remote source .

39. Packaging as claimed in Claim 24, wherein said chosen agent or substance comprises an oxygen absorbing agent or gel contained in a capsule that can be ruptured by exposure to micro wave, a magnetic field, or Radio Frequency from a remote source thereby allowing

40. Packaging as claimed in Claim 24, wherein said chosen agent or substance comprises an oxygen absorbing ferric element or gel contained in a capsule wherein said capsule can be ruptured by exposure to micro wave, a magnetic field, or Radio Frequency from a remote source after package assembly thereby providing a means to absorb any residual O₂ that may be present in the interstices of packaging materials used in the packaging.

41. Packaging as claimed in Claim 31, wherein said first packaging tray is manufactured from a foamed plastic, wherein said chosen agent or substance comprises an oxygen absorbing ferric element in granule/powder form applied to a portion of the inner surfaces of space between said first package walls, and wherein granules are individually and substantially enclosed in a covering layer of water barrier material wherein said water barrier material can be ruptured or modified by

exposure to micro wave, a magnetic field, or Radio Frequency from a remote source after package assembly thereby allowing gas contact of said ferric element to gases enclosed in said first package and thereby providing a means to absorb any residual O₂ that may be present in the interstices of packaging materials used in the packaging.

42. Packaging as claimed in Claim 13, wherein said walls are arranged such that when more than one packaging trays are stacked together in a single stack with a tray located directly above another, the base of an upper tray contacts the lip of the lower tray immediately below it such that there is a minimized distance or space between the surface of the underside of said upper tray and the upper surface of the portion of the tubular section web material directly below the upper tray.

43. Packaging as claimed in Claim 12, wherein one or more apertures are provided in said tubular section web at a location adjacent to said outer walls and in such a position that will allow communication of gas between the tray cavity and external to said package but also restricting communication of any free liquids that may be in said cavity.

44. Packaging as claimed in Claim 13, wherein portions of said tubular section web is printed with inks, and/or heat activated adhesives and/or pressure sensitive adhesives whereby when heat and or pressure is applied to urge portions of said web against said lip of said tray a bonding will occur therebetween at selected portions of said web and said tray.

45. Packaging as claimed in Claim 13, wherein portions of said tubular section web is printed with inks, and/or heat activated adhesives and/or pressure sensitive adhesives whereby when heat and or pressure is applied to urge portions of said web against any contactable portion of said tray a bonding will occur therebetween at selected portions of said web and said tray.

46. Packaging as claimed in Claim 12, wherein portions of said tubular section web are printed with inks, and/or heat activated adhesives and/or pressure sensitive adhesives whereby when heat and or pressure is applied to urge portions of said web together a bonding will occur therebetween at selected portions of said web.

47. Packaging as claimed in Claim 12, wherein said tubular section web is fabricated from plasticized polyvinyl chloride.

48. Packaging as claimed in Claim 12, wherein said tubular section web is fabricated from any suitable transparent web of material.

49. Packaging as claimed in Claim 12, wherein said tubular section web is fabricated from any suitable transparent web of material that has been treated with anti-fog agents.

50. A method of packaging perishable goods in packaging so said goods will be in a gas environment which will enhance the keeping properties of said goods said method comprising providing a base, placing goods over said base, applying a web of oxygen permeable material over said goods, and locating said packaging in a master container by stacking directly one above another without any other packaging materials therebetween with a desired gas between packaging which will enhance the keeping properties of said goods by contacting the surface of said goods and sealing said lid to said master container with said gas therebetween, said web of oxygen permeable material then holding said goods relative to said packaging and being of a size permitting viewing of a major portion of an upper surface of said goods and allowing said gas to contact said goods by permeating said web.

51. A method as claimed in Claim 50, wherein said web is stretched over a portion of said goods in each package and held to said packaging so said web is maintained stretched to firmly hold said goods to the packaging.

52. A method as claimed in Claim 50, wherein a machine readable barcode is applied to said tray prior to applying said web on a portion of said tray that is visible after applying said web to said packaging whereby at a future point in time said barcode can be machine read and human readable information can be applied to the web.

53. Apparatus for printing or applying a method of packaging perishable goods in packaging so said goods will be in a gas environment which will enhance the keeping properties of said goods said method comprising providing a base, placing goods over said base, applying a web of oxygen permeable material over said goods, and locating said packaging in a master container by stacking directly one

above another without any other packaging materials therebetween with a desired gas between packaging which will enhance the keeping properties of said goods by contacting the surface of said goods and sealing said lid to said master container with said gas therebetween, said web of oxygen permeable material then holding said goods relative to said packaging and being of a size permitting viewing of a major portion of an upper surface of said goods and allowing said gas to contact said goods by permeating said web.

54. Apparatus for packaging perishable goods in a gas environment to enhance the keeping properties of said goods comprising means for stacking packages in a master container, evacuating said master container without rupturing said packages and providing said gas therein applying a lid and hermetically sealing to said master container said gas contacting said goods by permeating said web and being of a size permitting viewing of a major portion of an upper surface of said goods.

55. An apparatus for automatically stacking and locating packages in a master container wherein a portion of the top of goods in each package is below said peripheral lip and a portion of the top of said goods is above a portion of said peripheral lip and wherein there is no other packaging materials provided between the packages and wherein the underside of an upper package does not contact the goods contained in a lower package.

56. A method of packaging goods, said method having the following steps:

- a) providing five or more overlapping webs, the two outer webs being gas barrier webs and the inner webs being a gas permeable webs;
- b) providing goods between any pair of inner gas permeable web and seal so as to enclose said goods therebetween in a liquid tight fashion to provide a sealed package;
- c) sealing gas flushing chamber means closed about the webs and the goods prior to the two outer barrier webs being sealed together at a seal path near a perimeter of the packaging;
- d) evacuate said gas flushing chamber so as to cause all sealed pairs of inner webs to expand against an adjacent web and thereby expel substantially all gas from space between said barrier webs and said sealed packages without allowing

rupture thereof and then flushing the gas flushing chamber means with a gas to enhance the keeping of the goods; and

e) then sealing the two barrier webs together by a sealing means which defines a seal path near what will be a perimeter of the packaging and which extends completely around said path, said sealing being of both webs around said seal and in said gas flushing chamber means to define a substantially gas impermeable package with said goods and said gas both sealed therein, and allowing said gas to contact said goods.

57. A method as claimed in Claim 56, wherein said goods are meats and said gas is typically 80% CO₂ and more than 19% N₂ and less than 0.03% O₂.

58. A method as claimed in Claim 56, wherein the volume of said gas in the package is substantially equal to the volume of meat in the package.

59. A method as claimed in Claim 56, wherein the lower gas barrier web is of tray like configuration with a bottom displaced in height from a peripheral lip and wherein said sealing path is effected on said peripheral lip.

60. A method as claimed in Claim 56, comprising stretching said gas permeable web taut prior to said sealing so said gas permeable web remains taut about said packaging.

61. A method as claimed in Claim 56, wherein said gas permeable web has openings therein and allowing said gas to pass through said openings.

62. A method as claimed in Claims 56, further comprising providing strands means between said gas permeable web and said goods and sealing said strand means to hold said goods to the gas barrier web.

63. A method as claimed in Claim 56, comprising selecting the height from said bottom of said package to said lip of said gas permeable tray web to be higher than the height of said goods, and effecting sealing so said gas permeable web is not contacting the upper surface of said goods when said goods are on said remaining web.

64. A method as claimed in Claim 56, wherein said gas flushing chamber means is evacuated of atmospheric gas prior to said gas flushing.

65. A goods master container, said master container having two gas barrier webs and intermediate gas permeable webs, goods between a pair of gas permeable webs and said gas permeable webs being sealed together by a seal extending completely around and near the perimeter of the packaging, a gas sealed in a gas barrier manner in the master container and contacting said goods, said gas selected for enhancing the keeping of said goods, and wherein said pair of gas barrier webs comprises a gas permeable webs that said goods are between is of tray like configuration with a bottom displaced in height from a peripheral lip, said seal being on said peripheral lip and wherein said height is greater than the height of said goods so when said goods are resting on said gas barrier web said gas permeable web is not touching said goods.

66. A goods package as claimed in Claim 65, wherein said gas permeable web has openings therein to allow said gas to pass through said openings.

67. A goods package as claimed in Claim 65, wherein said gas permeable web is stretched and said package is sealed with it stretched so it remains taut over said bottom.

68. A goods package as claimed in Claim 65, wherein said gas is typically 80% CO₂ and more than 19% N₂ and less than 0.05% O₂.

69. A goods package as claimed in Claim 65, wherein the volume of said gas in said package substantially equals the volume of meat in said package

70. Apparatus for packaging goods in a gas environment to enhance the keeping of said goods, comprising a gas flushing and sealing chamber means for holding a first web of a gas barrier material with said goods over said first web, and characterized by means for feeding an intermediate web of gas permeable material over said first web, and means for applying a further web of gas barrier material over said first web, and means for applying a further web of gas barrier material over said first web, said gas flushing and sealing chamber being closeable to bring both webs together prior to any of those webs being sealed together at a seal path near a perimeter of the packaging, and means for introducing a gas to enhance the keeping of said goods into said gas flushing and sealing chamber and sealing means in said gas flushing and sealing chamber for then sealing both webs together in said gas

flushing and sealing chamber with said gas sealed in the resulting master container package.

71. Apparatus for packaging perishable goods as claimed in Claim 70, characterized that said first web has a bottom displaced in height from a peripheral lip and wherein said means for holding said first web comprises a pair of horizontally displaced gripper chains plate with an aperture therein so said bottom passes into said aperture, and said peripheral lip rests on the upper surface of said plate around the perimeter of said aperture and wherein said gas flushing and sealing chamber is sealed, evacuated and gas flushed, and said webs are sealed with said gas sealed in the resulting package.

72. Apparatus for packaging perishable goods as claimed in Claim 70, characterized that said first web has a bottom displaced in height from a peripheral lip and wherein said means for holding said first web comprises a plate with an aperture therein so said bottom passes into said aperture, and said peripheral lip rests on the upper surface of said plate around the perimeter of said aperture and wherein said gas flushing and sealing chamber is sealed, evacuated and gas flushed, and said webs are sealed with said gas sealed in the resulting package.

73. A method of processing perishable goods, the method having the following steps:

- a) placing goods in an enclosed vessel containing a gas to enhance the keeping of the goods;
- b) allowing the gas to contact and dissolve in water, liquids and oils present in the goods;
- c) restricting the formation of oxymyoglobin by substantially displacing ambient atmospheric oxygen in air, that may otherwise contact the surface of the goods, with the gas;
- d) providing a retail package including two overlapping webs with a space therebetween, with at least one of the webs being gas permeable; and
- e) transferring the goods from the vessel to a position between the two overlapping webs and into the space without allowing significant formation of oxymyoglobin on surface of the goods.

74. A method as claimed in Claim 73, wherein said two overlapping webs are sealed so as to provide a hermetically sealed and liquid tight package.

75. A method as claimed in Claim 73, wherein the goods are fresh meats and the gas is a substantially oxygen free gas

76. A method of packaging goods, the method having the following steps:

a) providing four or more overlapping web sections, the two outer, first and second, web sections being gas barrier webs, the inner web sections including folded, third web material with at least one cup-shaped depression therein that cannot nest together, and a fourth gas permeable web material with space between the third and fourth web sections;

b) providing goods between the folded third web material and the fourth web material;

c) sealing the folded third web material and the fourth web material so as to substantially retain the goods in the cup-shaped depression but allowing gas to pass into and out of said space and to contact said goods;

d) sealing chamber means closed about all of the overlapping webs after sealing the third and fourth web material but prior to sealing the first and second webs together at a seal path near the perimeter of the packaging which will provide a hermetically sealed package;

e) gas flushing the chamber means with a gas to enhance the keeping of the goods; and

f) then sealing the first and second webs together by a sealing means which defines a seal path near what will be an outer perimeter of the packaging and which encloses the third and fourth web material within a hermetically and substantially gas impermeable package with the goods and the gas sealed therein and allowing the gas to contact the goods.

77. A goods packaging tray including a base with upwardly extending side walls that terminate at a flange that extends around a perimeter of the tray to provide a cup-shaped recess. The tray having at least one extension connected to the flange at a hinge. The extension including a cup-shaped flap that can be folded about the hinge and be bonded to at least a portion of one of the upwardly extending side walls to provide an enclosed space.

78. A package as in Claim 77, having apertures at a base of at least a portion of one side wall of the tray so as to provide communication between the enclosed space and the tray that will allow liquids to pass from the tray cup-shaped recess into the enclosed space.

79. Apparatus for producing packaging trays as claimed in Claim 78, including:

means for thermoforming plastics sheet to form and trim a packaging tray with a base and upwardly extending side walls that terminate at a flange that extends around a perimeter of the tray to provide a cup-shaped recess with at least one extension connected to the flange at a hinge including a cup-shaped flap that can be folded about the hinge and be sealed to at least one of the upwardly extending side walls to provide an enclosed space;

means to seal the flap to the tray wall around a perimeter of the flap; and

means to provide apertures in the side wall of the tray recess so as to provide a communication between the enclosed space and the tray recess.

80. A method of processing and packaging fresh red meats including the steps of:

a) locating and processing the fresh meat containing de-oxymyoglobin in a vessel with a gas that is substantially free of oxygen.

b) transferring the fresh red meat, with de-oxymyoglobin, from the vessel and into a substantially gas barrier package that contains a substantially oxygen free gas.

c) sealing the fresh red meat, with de-oxymyoglobin, within the package;

d) performing steps a), b) and c) in such a manner so that any contact of the fresh - meat containing de-oxymyoglobin with atmospheric oxygen during the transfer, prior to subsequent exposure of the red meat with de-oxymyoglobin to ambient atmospheric gas after packaging, will be minimized to the extent that any oxymyoglobin that may consequentially become present at the surface of the fresh red meat, as a result of brief contact with any atmospheric oxygen, will not subsequently cause generation of significant quantities of metmyoglobin to an extent that is visibly recognizable as a brown discoloration by human eye.

81. A packaging tray, comprising:

a first barrier web, wherein the first web defines an upper surface area bordering the periphery of a depression;
a second permeable web sealed to the surface area; and
a third web, peelably sealed to the second web after having evacuated or expelled any air from between said second and third webs.

82. A method for producing peelable lids, comprising the steps of:
providing a first web;
providing a roll of a second web;
applying a label onto the second web;
applying a third web onto the second web;
expelling the ambient atmosphere from between the second and third web sealing the first, second and third webs; and
wherein a first seal bar seals the third web to the second web, and a second seal bar seals the second web to the first web.

83. A packaging tray, comprising:
a thermoformed web of material, wherein the web is formed to have a bottom and at least four sides, wherein at least two of the sides are reclining, at least a first member, integrally formed with the tray, wherein the member is movable between a first position and a second position, and wherein at the second position, the member is substantially level with the upper horizontal surface of the tray to provide a support.

84. A packaging tray, comprising:
a thermoformed web of material, wherein the web is formed to have a bottom and four sides, a perforation in the tray allowing evacuation and flushing of gases between the interior of the tray and ambient atmosphere.

85. The tray of Claim 84, further comprising a valve in the form of a dimple to close the perforation.

86. The tray of Claim 84, wherein the tray includes legs.

87. A packaging tray, comprising:
a thermoformed web of material including a bottom and four sides,

a first and second flap located at opposite sides, wherein the first and second flaps are independently foldable between a first and second position;
a perforation in the tray to allow evacuation and flushing of gases; and
a dimple to close the perforation, wherein the bottom includes a raised center portion with sloping surfaces toward at least two of the sides.

88. The tray of Claim 84, further comprising a frustoconical tube at the perforation and a second web to seal the perforation:

89. The tray of Claim 84, further comprising;
a tube at the perforation;
a second web to seal the perforation; and
a dimple to secure the seal.

90. The tray of Claim 84, further comprising a one way valve at the perforation.

91. The tray of Claim 84, further comprising channels at the perforation to channel liquids away from the perforation and exiting the tray.

92. The tray of Claim 84, wherein a first and second side are recessed at a lower portion, and the upper portion is protruding to mate with an adjacent tray.

93. A method for packaging perishable goods, comprising the steps of:
providing in a master container;
providing packaged trays having perforations to allow evacuation and flushing of gases, wherein the trays are stacked inside the master container;
evacuating the master container and trays of ambient atmosphere;
flushing the master container and trays with a selected gas; and
hermetically sealing the master container.

94. A method for packaging perishable goods, comprising the steps of:
providing a master container;
providing packaged trays, wherein the trays are stacked inside the master container; and
providing an oxygen absorber in the master container to remove oxygen.

95. The tray of Claim 84, further comprising soaker pad and bacteria sensing material.

96. The tray of Claim 95, wherein the soaker pad comprises; a first web of polypropylene or polyethylene sensor material atop the first web; and
a second web atop the sensor material.

97. ~~A method for forming soaker pads, comprising:~~
providing a first web of material;
feeding the web to a trough;
contacting the web with water in the trough;
providing engineered polymerized molecular film on the surface of the water;
adjusting the flow of the water to the web;
passing the web over a dryer; and
applying a soaker pad to the web.

98. A packaging tray, comprising:
a thermoformed web of material, including a bottom and four sides, the sides forming a rectangular periphery around a depression in the web;
at least one flap attached to the periphery;
a plurality of channels formed in the bottom of said depression to channel liquids; and
an aperture or recess found on the flap to channel gases.

99. The tray of Claim 98, further comprising a flange.

100. The tray of Claim 99, further comprising perforations in the tray bottom.

101. The tray of Claim 100, further comprising apertures in the tray sides.

102. The tray of Claim 101, wherein the flaps extend past the bottom of the web when folded.

103. The tray of Claim 102, wherein the tray is wrapped in an outer cover, and the outer cover includes perforations.

104. The tray of Claim 102, wherein the tray is wrapped in an outer cover, and wherein the outer cover provides a liquid tight cover with no perforations.

105. The tray of Claim 98, further comprising: a first and a second section containing incisions.

106. The tray of Claim 98, wherein the flap further comprises peaks and faces.

107. The tray of Claim 98, wherein the web is formed from solid polypropylene sheet

108. The tray of Claim 98, wherein the web is formed from a solid multi-layer plastics sheet

109. The tray of Claim 98, wherein the web is formed from expanded polystyrene with a surfactant included and controlled inclusions to create an open cell structure.

110. The tray of Claim 98, wherein the apertures formed on the flap are horizontal.

111. The tray of Claim 98, wherein a plurality of recesses are formed on the flap.

112. The tray of Claim 109, wherein the recesses are made in a perpendicular direction.

113. The tray of Claim 98, wherein the sides of the web extend below the bottom.

114. The tray of Claim 98, wherein the sides of the web extend to point adjacent to the bottom of said depression.

115. The tray of Claim 98, further comprising second, third and fourth flaps, wherein at least one and second flaps contain apertures, and the third and fourth are devoid of apertures.

116. The tray of Claim 98, wherein the web is a multilayer construction.

117. The tray of Claim 98, wherein the web is extruded with non-absorbent skin covering.

118. The tray of Claim 117, wherein the skin includes a coloring pigment.

119. The tray of Claim 98, wherein the flap, upon folding adjacent to the web side forms spaces.

120. The tray of Claim 98, wherein the tray further includes iron deposits.

121. The tray of Claim 98, wherein the tray further comprises a crest and a clearance.

122. The tray of Claim 98, further comprising a flange, wherein the flange is connected to a flap by a hinge.

123. The tray of Claim 98, wherein the flap includes a lug to mate with a recess on the tray.

124. The tray of Claim 98, wherein the flap includes a rim around the perimeter of the flap.

125. The tray of Claim 124 wherein the rim is projected outward.

126. A packaging tray, comprising;
a thermoformed web of material, having a bottom and four upwardly extending side-walls, wherein the upper ends of the side-walls are formed into a horizontal flange, at least a first flange, formed integrally with the tray, and having a flap, wherein the flap is movable to a position such that the tray flanges and the flap flange are in adjacent disposition.

127. A packaging tray comprising;
a thermoformed web of material, having a bottom and four upwardly extending sidewalls, wherein the upper ends of the sidewall are formed into a horizontal flange; and

a thermoformed tray formed integrally with and forming a ridge around the upper periphery of the cover interrupted by recesses to allow for the evacuation and gas flushing between stacked packages.

128. The tray of Claim 127, wherein the web has a recess formed on the bottom so as to mate with the ridge of an adjoining cover.

129. The tray of Claim 45, wherein the cover includes grooves and slots.

130. The tray of Claim 232, wherein the web includes ridges and the tray includes ridges such that when the tray flange and the flap flange are adjacent, the tray ridge is adjacent to the flap ridge.

131. The tray of Claim 236, wherein the flap includes a curved recess and the web includes a bottom ridge, wherein the recess mates with a ridge of a stacked tray.

132. The tray of Claim 98, wherein the flap includes a rib.

133. The tray of Claim 98, further comprising a second web for an outer cover, wherein the second web defines an aperture adjacent to the flap aperture, wherein a barrier label is applied.

134. The tray of Claim 98, wherein goods are conformed to the tray.

135. The tray of Claim 98, wherein goods are formed in the shape of a dome.

136. The tray of Claim 98, wherein an outer cover is placed over the tray and stretched by depressing the outer cover into a bottom recess formed by the extending flaps and tray bottom.

137. The tray of Claim 98, wherein the flap includes a radius and the tray includes a recess to mate with the radius when the flap is folded adjacent to the tray sidewall.

138. The tray of Claim 98, wherein the tray bottom includes depressions and apertures.

139. A method for applying substances to packaging trays, comprising:
applying an adhesive on a tray impression;
applying an iron powder on the adhesive; wherein a magnet is used to attract the iron powder to the desired location; and

allowing the adhesive to cure.

140. A method for applying substances to webs used for coverings, comprising:

providing a web of material;
applying an adhesive to an imprint roller;
contacting the roller with the web;
applying iron powder to the web, wherein a magnet is used to attract the iron powder to the desired position; and
drying the adhesive.

141. A method of sealing a cover to a web, comprising:

dispensing trays on a conveyor;
cutting flaps to a desired configuration;
loading product in the tray;
sealing a web to the tray,
forming aperture in the tray,
folding flaps to locate flaps adjacent to tray;
sealing flaps to tray; and
labeling the tray.

142. A method for sealing a master bag container, comprising:

providing a first and a second vacuum chamber, wherein one of the chambers includes a heat bank, the first and second chambers being opposingly configured to open and close, locating the master bag container within the first or second chamber, when chambers are in open position, wherein the master bag defines an opening;

extending a web across the opening of the bag;
closing the first and second chamber to define an enclosed space;
evacuating the enclosed space;
flushing the enclosed space; and
sealing the web to the bag.

143. A packaging apparatus, comprising:

a first and second section defining a space therebetween, wherein an endless conveyor travels between a first sprocket located at the first section and a second

sprocket located at the second section, wherein the conveyor defines apertures containing trays with goods along the length; and

a scale located within the space between the first and second section, whereupon indexing of the conveyor places a tray on the scale.

144. A packaging apparatus for sealing a first, second and third web, comprising:

a first vacuum chamber, a second vacuum chamber, wherein the first and second vacuum chambers are disposed in opposing configuration to open and close defining an enclosed space in the closed configuration, the first chamber including a heat bank to seal the webs, a vacuum port to evacuate the enclosed space and a knife to trim the webs once sealed; and

the second chamber includes a gassing port to flush the enclosed space.

145. A packaging apparatus:

comprising an endless conveyor disposed and a first and second sprocket; sealing plates attached to the conveyor for loading of trays; and a vacuum chamber for sealing trays to a web material.

146. A sealing apparatus, comprising:

a first and second vacuum chamber, arranged in opposed configuration, operably arranged to open and close, where in the closed position first and second chambers define an enclosed space.

147. A method of packaging trays comprising:

providing a vacuum chamber;

locating a tray within the vacuum chamber;

evacuating the vacuum chamber;

flushing the vacuum chamber with carbon dioxide to a predetermined pressure for a predetermined time;

lowering the pressure; and

sealing a second and third web together and to the tray.

148. A method of packaging trays comprising:

providing a vacuum chamber;

transferring from ambient atmosphere and locating a tray with goods therein within the vacuum chamber;

evacuating the vacuum chamber;
flushing the vacuum chamber with carbon dioxide or nitrogen or a combination thereof ; and
removing said tray from vacuum chamber and transferring to an enclosure containing an oxygen free gas.

149. The method of Claim 147, wherein the second web is stretched prior to sealing to the third web.

150. The method of Claim 147, further comprising sealing the second web to tray having flaps.

151. A method of packaging trays having flaps, comprising;
providing a first, second, and third web, sealing the third web to a first portion of the flap;
sealing the second web to a second portion of the flap; and
folding the flap, wherein folding stretches second and third webs.

152. A method of packaging trays, comprising,;
providing sealing plates, wherein the plates have apertures for locating trays; wherein the apertures are sized smaller than tray dimensions, so as to inwardly urge the tray sidewalls, locating a tray with a flange a within the aperture; and
sealing a web material to the flange while the tray is in the inwardly urged configuration.

153. A method for producing a laminated web material for covering packaging trays;
providing a first web;
providing a second web;
tensioning the second web;
perforating the second web; and
feeding the first and second webs to nip rollers to expel the air between the first and second web.

154. A method of using a laminated web, comprising;
providing a laminated web;
providing a tray web material;

sealing a first layer of the laminated web to the tray; and
sealing a second layer of the laminate to the tray.

155. A method for manufacturing a master pack, comprising;

- a) feeding a first and second web material to a vacuum chamber;
- b) closing the vacuum chamber;
- c) evacuating the vacuum chamber;
- d) flushing the vacuum chamber with a gas;
- e) performing steps A, B and C, at least not less than four times;
- f) feeding the first and second web material to a heat sealer; and
- g) sealing first and second web materials to form a master

container.

156. A method for grinding meat, comprising:
providing a vessel with entry and exit points;
providing a meat grinder at the entry point having an auger for moving the meat to a cutter;
sealing the entry point with ground meat;
introducing a carbonation substance to contact the ground meat;
providing a means for moving the meat to the exit point; and
sealing the exit point with ground meat.

157. The method of Claim 156, wherein the carbonation substance comprises carbon dioxide.

158. The method of Claim 156, wherein the carbonation substance comprises carbonic acid.

159. The method of Claim 156, wherein gas introduced into the vessel is carbon dioxide and nitrogen.

160. The method of Claim 156, further comprising a step of controlling the vessel temperature.

161. The method of Claim 156, further comprising the step of controlling the level of meat in the vessel.

162. The method of Claim 156, further comprising the step of profiling the meat at the exit point to a desired shape.

163. The method of Claim 156, further comprising the step of transferring the meat to a second pressure vessel where free carbon dioxide is removed.

164. The method of Claim 156, further comprising the step of grinding meat at the exit point.

165. A method for processing meat, comprising the steps of placing meat in a pressure vessel containing carbon dioxide; and dissolving carbon dioxide in the meat at a pressure above ambient pressure.

166. The method of Claim 165, further comprising packaging the meat in a tray and sealing with a permeable web.

167. The method of Claim 165, wherein the pressure is about 50 psi or greater.

168. The method of Claim 165, further comprising the step of controlling the temperature of the pressure vessel between about 25 degrees F and about 40 degrees F.

169. The method of Claim 169, further comprising the step of loading the packaged tray in a master container.

170. The method of Claim 165, further comprising a grinding the meat.

171. An apparatus for grinding meat, comprising;
a measure vessel having entry and exit points;
a first meat grinder located at the entry point of pressure vessel;
a first auger located at the entry point to transfer meat through the grinder;
a seal at the entry point, including the meat or packing material for the seal;
and
a second auger located in the pressure vessel to transfer meat to the exit point.

172. The apparatus of Claim 171, further comprising:
a second meat grinder located at the exit point.

173. The apparatus of Claim 172, further comprising:
a seal at the exit point, including the meat as packing material for the seal.

174. An apparatus for processing meat, comprising:
a pressure vessel, with entry and exit points for products;
a tube located within the pressure vessel suitably configured to rotate;
a first, second and third auger located with the tube, suitably configured to transfer the meat through the tube;
a plurality of parts to allow introduction of conditioning; and
a heat exchanger to maintain the temperature of the gas.

175. The apparatus of Claim 174, further comprising a meat grinding assembly located at the entry point.

176. The apparatus of Claim 174, further comprising a lean tissue and fat tissue analyzer.

177. An apparatus for conditioning meat, comprising a meat grinder, with an entry and exit point, a tube connected to the exit point of the grinder, wherein the tube is passed through an enclosure containing cooling medium.

178. An apparatus for shaping meat, comprising a container, having sidewalls surrounding a lower base, so as to define an opening, a plug, suitably configured to fit in the opening slide within the interior sidewalls, a press base, attached to an elevating shaft, the press base configured to mate with the lower portion of the container, a plurality of independently driven clamps positioned above the plug.

179. An apparatus for shaping meat comprising a container, having a base and upwardly extending parallel side-walls, so as to define a cavity with parallel sides, a plug, suitably configured to fit into the cavity and slide within the interior of side-walls and thereby define an enclosure with plug inserted, said plug having a flexible outer perimeter rim such that a substantially gas tight seal is provided to any gas outside said container after said plug is inserted and such that gas contained within said enclosure can be expelled by depressing said plug closer to said base.

180. A method for shaping meat, comprising the following steps:

a) selecting and separating a meat portion from an animal carcass following death of said animal but prior to rigor mortis of said meat portion occurring;

b) placing said meat portion in a container having a base and upwardly extending parallel side-walls, so as to define a cavity with parallel sides and an opening;

c) inserting a plug suitably configured to fit into said container opening and slide within the interior of side-walls and thereby displacing any free gas from within said container and causing said meat portion to conform to the internal shape of said container and plug;

d) locating said container, meat portion and plug into a temperature controlled enclosure and progressively lowering the temperature within said enclosure so as to lower the temperature of said meat portion and thereby cause rigor mortis to occur providing a permanently shaped portion of meat with a profile substantially identical to the inner profile of said container with plug; and

e) remove said meat portion from said container and cut to produce sliced meat with slices having a profile substantially the same as each other.

181. A method for shaping meat, comprising the steps of:
placing a meat portion in a container with a plug, between a press base and a clamp;
advancing the clamp toward the press base and the plug;
applying a vacuum source between the clamp and the plug; and
applying pressure to the plug with the clamp to as to substantially remove the air from the container.

182. The method of Claim 181 wherein the container is immersed in brine.

183. The method of Claim 181, wherein the container is further subjected to ultra high pressure.

184. The method of Claim 181, wherein a high voltage current is passed through the container.

185. The method of Claim 181, further comprising immersing the container in a cooling medium.

186. The method of Claim 181, wherein a plurality of meat portions are shaped.

187. An apparatus for shaping meat, comprising a container arranged to provide a desired internal profile, comprising a longitudinal trough having at least two sidewalls connected by a bottom side member, a mating closure which is received by the trough between the sidewalls; and, a first and second plug received by the trough on the first and second end.

188. An apparatus for thermoforming trays, comprising:
a tube for storing spools of web material, the tube being flooded with a suitable gas.

189. A method for the storing webs, comprising:
locating the web within a pressure chamber, evacuating the vessel by lowering the pressure, maintaining the vacuum, and
increasing the pressure by introducing a suitable gas.

190. An apparatus for the exchange of ambient gas in foam webs to a preferred gas, comprising:
a tube having a first and second open ends;
a first cap located on a first one of the open ends to substantially seal the end;
a second cap located on a second of the open ends, the second cap defining a port through the cap center; and
a piston enclosed within the tube.

191. The apparatus of Claim 190, wherein the tube is mounted on a rotating member.

192. An apparatus for the exchange of ambient gas in foam webs to a preferred gas, comprising:
a tube having a first and second open ends;
an evacuation port; and
a gas entry port.

193. The apparatus of Claim 192, further comprising a first cap.

194. An apparatus for forming trays comprising:

a first chamber, having a porous mold for forming a web; and a second chamber, suitably arranged to move toward the first chamber; and a plurality of ports for attaching to a vacuum source and a preferred gas.

195. A packaging tray, comprising:

a web of thermoformed material, comprising:

a bottom and four sidewalls extending horizontally from the bottom base to form an opening, wherein the opening is surrounded by a flange on at least two sides, and wherein the sidewalls are formed with areas of higher concentration material.

196. A method for processing and packaging perishable goods, comprising the following steps:

a) transferring goods into an enclosed first vessel and a gas to enhance the keeping of the goods, and wherein said first vessel is substantially sealed so as to inhibit entry of atmospheric gas therein;

b) controlling gas pressure and temperature in said first vessel and thereby controlling dissolving of said gas into said goods;

c) mixing of said goods;

d) inhibiting the formation of oxymyoglobin by substantially displacing ambient atmospheric oxygen in air, that may otherwise contact the surface of the goods, with the gas;

e) transferring said goods from said first pressure vessel into a second pressure vessel; and

f) transferring said goods into a substantially gas barrier package without allowing significant formation of oxymyoglobin on surface of the goods, and hermetically sealing said goods therein.

197. Apparatus for processing and packaging perishable goods, comprising:

a) apparatus and means to transfer goods into an enclosed first vessel with a gas to enhance the keeping of the goods, and wherein said first vessel is substantially sealed so as to inhibit entry of atmospheric gas therein;

b) means to control gas pressure and temperature in said first vessel and thereby control dissolving of said gas into said goods;

c) means for mixing of said goods;

d) means to inhibit the formation of oxymyoglobin by substantially displacing ambient atmospheric oxygen in air, that may otherwise contact the surface of the goods, with the gas;

e) means to transfer the goods from said first pressure vessel into a second pressure vessel; and

f) means to transfer said goods into a substantially gas barrier package without allowing significant formation of oxymyoglobin on surface of the goods, and hermetically sealing said goods therein.

198. Apparatus for processing and packaging perishable goods, comprising:

a) an enclosed first vessel containing goods and a gas to enhance the keeping of the goods, and wherein said first vessel is substantially sealed so as to inhibit entry of atmospheric gas therein;

b) means to control gas pressure and temperature in said first vessel and thereby control dissolving of said gas into said goods;

c) means for mixing of said goods;

d) means to inhibit the formation of oxymyoglobin by substantially displacing ambient atmospheric oxygen in air, that may otherwise contact the surface of the goods, with the gas;

e) means to transfer the goods from said first pressure vessel into a second pressure vessel; and

f) means to transfer said goods into a substantially gas barrier package without allowing significant formation of oxymyoglobin on surface of the goods, and hermetically sealing said goods therein.

199. A method for processing and packaging ground meats, comprising the following steps:

a) transferring ground meats into an enclosed first vessel with a gas to enhance the keeping of the ground meats, and wherein said first vessel is substantially sealed so as to inhibit entry of atmospheric gas therein;

b) controlling gas pressure and temperature in said first vessel and thereby controlling dissolving of said gas into said ground meats;

c) mixing of said ground meats;

- d) inhibiting the formation of oxymyoglobin by substantially displacing ambient atmospheric oxygen in air, that may otherwise contact the surface of the ground meats, with the gas;
- e) transferring said ground meats from said first vessel into a second vessel via pumping means in a substantially continuous stream through an enclosed conduit and substantially exclude voids in said stream;
- f) measuring fat content of said ground meats continuously during transfer from said first vessel to said second vessel;
- g) mixing said ground meats; and
- h) transferring said ground meats into a substantially gas barrier package without allowing significant formation of oxymyoglobin on surface of the goods, and hermetically sealing said ground meats therein.

200. A method for processing and packaging ground meats, comprising the following steps :

- a) transferring ground meats into an enclosed first vessel with a gas to enhance the keeping of the ground meats, and wherein said first vessel is substantially sealed so as to inhibit entry of atmospheric gas therein;
- b) controlling gas pressure and temperature in said first vessel and thereby controlling dissolving of said gas into said ground meats;
- c) mixing said ground meats;
- d) inhibiting the formation of oxymyoglobin by substantially displacing ambient atmospheric oxygen in air, that may otherwise contact the surface of the ground meats, with the gas;
- e) transferring said ground meats from said first vessel into a second vessel via pumping means in a substantially continuous stream through an enclosed conduit and substantially exclude voids in said stream;
- f) measuring fat content of said ground meats continuously during transfer from said first vessel to said second vessel;
- g) mixing said ground meats; and
- h) transferring said ground meats into a substantially gas barrier package without allowing significant formation of oxymyoglobin on surface of the goods, and hermetically sealing said ground meats therein.

201. Apparatus for processing and packaging ground meats, comprising:

- a) a means of transferring ground meats into an enclosed first vessel with a gas to enhance the keeping of the ground meats, and wherein said first vessel is substantially sealed so as to inhibit entry of atmospheric gas therein;
- b) means of controlling gas pressure and temperature in said first vessel and thereby controlling dissolving of said gas into said ground meats;
- c) means of mixing said ground meats;
- d) means of inhibiting the formation of oxymyoglobin by substantially displacing ambient atmospheric oxygen in air, that may otherwise contact the surface of the ground meats, with the gas;
- e) means of transferring said ground meats from said first vessel into a second vessel via pumping means in a substantially continuous stream through an enclosed conduit and substantially excluding voids in said stream;
- f) means of measuring fat content of said ground meats continuously during transfer from said first vessel to said second vessel;
- g) means to mix said ground meats; and
- h) means of transferring and packaging said ground meats in a substantially gas barrier package without allowing significant formation of oxymyoglobin on surface of the goods, and means of hermetically sealing said ground meats therein.

202. A method of automatically producing ground meats having a selected proportion of fat and lean meat, comprising the following steps:

- a) pumping a first, independently controlled, measured stream of ground meats, with means to adjust the velocity of said stream, through an enclosed conduit connected to a fourth vessel with mixing means therein;
- b) pumping a second, independently controlled, measured stream of ground meats, with means to adjust the velocity of said second stream, through an enclosed conduit connected to said fourth vessel with mixing means therein;
- c) providing gas and controlling said gas pressure and temperature in said fourth vessel and thereby controlling dissolving of said gas into said ground meats;
- d) mixing means of said first and second streams of ground meats;

e) inhibiting the formation of oxymyoglobin by substantially displacing ambient atmospheric oxygen in air, that may otherwise contact the surface of the ground meats, with the gas;

f) transferring said ground meats from said fourth vessel into a fifth vessel through an enclosed conduit for storage in said fifth vessel or alternatively transferring said ground meats from said fourth vessel directly into an enclosed fine grinder in a manner so as to substantially exclude voids and in a continuous stream; and

g) transferring said ground meats into a substantially gas barrier package without allowing significant formation of oxymyoglobin on surface of the goods, and hermetically sealing said ground meats therein.

203. Apparatus for automatically producing ground meats having a selected proportion of fat and lean meat, comprising the following:

a) means to provide pumping of a first, independently controlled, measured stream of ground meats, with means to adjust the velocity of said stream, through an enclosed conduit connected to a fourth vessel with mixing means therein;

b) means to provide pumping of a second, independently controlled, measured stream of ground meats, with means to adjust the velocity of said second stream, through an enclosed conduit connected to said fourth vessel with mixing means therein;

c) means to provide gas and means for controlling said gas pressure and temperature in said fourth vessel and thereby controlling dissolving of said gas into said ground meats;

d) means for mixing of said first and second streams of ground meats;

e) means to inhibit the formation of oxymyoglobin by substantially displacing ambient atmospheric oxygen in air, that may otherwise contact the surface of the ground meats, with the gas;

f) means of transferring said ground meats from said fourth vessel into a fifth vessel through an enclosed conduit for storage in said fifth vessel or alternatively transferring said ground meats from said fourth vessel directly into an enclosed fine grinder in a manner so as to substantially exclude voids and in a continuous stream; and

g) means of transferring said ground meats into a substantially gas barrier package and means for packaging therein without allowing significant formation of oxymyoglobin on the surface of said ground meats, and hermetically sealing said ground meats therein.

204. A method of processing and packaging goods, the method having the following steps:

- a) treating goods with agents to reduce the quantity of bacteria present in said goods and ensuring that said quantity of bacteria does not exceed the maximum acceptable level for goods intended for human consumption, as required by prevailing government regulations;
- b) transferring goods into an enclosed vessel containing a gas to enhance the keeping of the goods;
- c) providing a package including overlapping gas barrier web material with a space therebetween;
- d) providing a gas in said space; gas selected for having properties to enhance the keeping of the goods;
- e) transferring the goods from the vessel to a position between the overlapping gas barrier web material and into the space;
- f) hermetically sealing said overlapping gas barrier web material to enclose said goods and said gas therein, to provide a finished package; and
- g) storing said finished package in a temperature controlled space ensuring that the quantity of bacteria present in said goods does not exceed the maximum acceptable level for goods intended for human consumption, as required by prevailing government regulations, prior to removing said goods from said finished package for use.

205. Apparatus for processing and packaging goods as claimed in Claim 1 including:

- a) means for treating goods with agents to reduce the quantity of bacteria present in said goods and ensuring that said quantity of bacteria does not exceed the maximum acceptable level for goods intended for human consumption, as required by prevailing government regulations;
- b) means for transferring goods into an enclosed vessel containing a gas to enhance the keeping of the goods;

- c) means to provide a package including overlapping gas barrier web material with a space therebetween;
- d) means to provide a gas in said space at a controlled pressure and temperature; gas selected for having properties to enhance the keeping of the goods;
- e) means to transfer the goods from the vessel to a position between the overlapping gas barrier web material and into the space;
- f) packaging means to hermetically sealing said overlapping gas barrier web material to enclose said goods and said gas therein, to provide a finished package; and
- g) means to store said finished package in a temperature controlled space ensuring that the quantity of bacteria present in said goods does not exceed the maximum acceptable level for goods intended for human consumption, as required by prevailing government regulations prior to removing said goods from said finished package for use.

206. A method of processing and packaging fresh ground meats, the method having the following steps:

- a) providing a first quantity of fresh meat portions comprising proportions of fat, water and protein content;
- b) providing a second quantity of fresh meat portions comprising proportions of fat, water and protein content;
- c) treating both first and second quantities of fresh meat with agents to reduce the quantity of bacteria present in said goods and ensuring that said quantity of bacteria does not exceed the maximum acceptable level for goods intended for human consumption, as required by prevailing regulations;
- d) transferring said first quantity of fresh meat into a first enclosed vessel containing a gas to enhance the keeping of the goods and mixing said goods thereby;
- e) transferring said second quantity of fresh meat into a second enclosed vessel containing a gas to enhance the keeping of the goods and mixing said goods thereby;
- f) measuring at least the fat content of said first quantity of fresh meat while transferring into a third enclosed vessel containing a gas to enhance the keeping of the fresh meat and mixing therein, wherein method of transfer is provided

via an enclosed conduit connected directly to said third vessel, through which said first quantity of fresh meat is transferred;

g) measuring at least the fat content of said second quantity of fresh meat while transferring into said third enclosed vessel and mixing therein with said first quantity of fresh meat, wherein method of transfer is provided via an enclosed conduit connected directly to said third vessel, through which said second quantity of fresh meat is transferred;

h) providing a package including overlapping gas barrier web material with a space therebetween;

i) transferring the combined first and second streams of fresh meat from said third vessel to a position between the overlapping gas barrier web material and into the space; and

j) hermetically sealing said overlapping gas barrier web material to enclose said fresh meat, and excluding substantially all ambient air therefrom.

207. Apparatus for processing, measuring and packaging fresh ground meats, comprising the following:

a) means to provide a first quantity of fresh meat portions comprising proportions of fat, water and protein content;

b) means to provide a second quantity of fresh meat portions comprising proportions of fat, water and protein content;

c) means to treat both first and second quantities of fresh meat with agents to reduce the quantity of bacteria present in said goods and ensuring that said quantity of bacteria does not exceed the maximum acceptable level for fresh meat intended for human consumption, as required by prevailing regulations;

d) means to provide gas and transfer said first quantity of fresh meat into a first enclosed vessel containing gas to enhance the keeping of the fresh meat and mix said fresh meat thereby;

e) means to provide gas and transfer said second quantity of fresh meat into a second enclosed vessel containing gas to enhance the keeping of the fresh meat and mix said fresh meat thereby;

f) means to provide gas and transfer and measure at least the fat content of said first quantity of fresh meat and transfer into a third enclosed vessel containing gas and mixing means therein, wherein an enclosed conduit means of

transfer is connected, via transfer and fat measuring means, directly to said third vessel from said first vessel;

g) means to provide gas and transfer and measure at least the fat content of said second quantity of fresh meat and transfer into said third enclosed vessel containing gas and mixing means therein, wherein an enclosed conduit means of transfer is connected, via transfer and fat measuring means, directly to said third vessel from said second vessel;

h) means to provide packaging including overlapping gas barrier web material with a space therebetween;

i) means to transfer the combined first and second streams of fresh meat from said third vessel to a position between the overlapping gas barrier web material and into the space; and

j) packaging means to hermetically seal said overlapping gas barrier web material and enclose said fresh meat, and means to exclude substantially all ambient air from said package.

208. A package for perishable goods, comprising:

a first web defining a base;

a plurality of first walls extending upwardly and outwardly from the base to define a depression in the web with an opening, wherein the perimeter of the opening defines a lip;

a plurality of second walls extending from the lip downward to define a space between a wall from the first walls and a wall from the second walls, wherein at least one of the second walls includes a ledge substantially level with the web base; and

a second web of gas-permeable material, wherein the second web is sealed or stretched on the first web in a modified atmosphere environment.

209. The tray of Claim 5, wherein the plastics web used to produce the tray comprises a sheet material that has been extruded from any suitable source of polymer, such as polypropylene, but with a quantity of suitable bactericide provided therein that remains active and capable of reducing levels of bacterial contamination such as bacteria contained in goods in contact with a surface of the tray.

210. A packaging tray, comprising:

a thermoformed web of material including a bottom and four sides; and

a first and second flap located at opposite sides, wherein the first and second flaps are foldable between a first and second position.

211. A method for packaging perishable goods, including the steps of:

providing a substantially gas barrier master container comprising a rectangular cavity with a space enclosed by a base and four upwardly disposed walls terminating at a flange; said flange being displaced from said base in distance equal to a height and said cavity having a length and a width. Said height, length and width so arranged to allow enclosure of a volume of packaging trays that are directly stacked together in multiple layers and in a grouping. Said grouping having height, length and width dimensions that are arranged such that said grouping of stacked trays will neatly fit within said space;

providing a range of different sized packaging trays each of which can be stacked together and having dimensions substantially equal to said grouping;

wrapping a plurality of said trays with a web of suitable plastics material and enclosing goods therein;

stacking wrapped trays with goods arranged in a grouping into the master container space so as to substantially fill the cavity so that a minimum free space remains and wherein said volume of free space is substantially similar or less than the total volume of goods contained in the master container cavity;

flushing the master container and free space with a volume of selected gas, so as to displace substantially all air contained therein;

hermetically sealing a gas barrier lid material to the flanges of said master container and over said space so as to hermetically seal said master container with trays, goods and selected gas in said space, and

placing said master container in a carton and sealing therein.

212. A method comprising the processing or packaging of meat in a substantially enclosed series of connecting conduits, vessels and enclosures wherein any free space therein is substantially filled with a selected gas.

213. Apparatus to provide finished processed and packaged goods according to the method of Claim 212.

214. A method as claimed in Claim 212 wherein more than two streams of fresh meat are processed, measured and packaged.

215. A package for perishable goods, comprising:
a first web defining a base;
a plurality of first walls extending upwardly and outwardly from the base to define a depression in the web with an opening, wherein the perimeter of the opening defines a lip;
a plurality of second walls extending from the lip downward to define a space between a wall from the first walls and a wall from the second walls, wherein at least one of the second walls includes a ledge substantially level with the web base; and
a second web of gas-permeable material, wherein the second web is sealed or stretched on the first web in a low oxygen environment.

216. A method for processing meat, comprising:
cutting meat containing deoxymyoglobin in an atmosphere substantially deficient of oxygen; and
inhibiting contact between the cut meat surface with oxygen.

217. A system for processing or packaging beef in a web comprising of an apparatus for the removal of oxygen in a step in the processing or packaging, followed by the introduction of a suitable gas or agent at a suitable pressure and temperature, and for a suitable time period to cause the dissolution of the gas or agent into the beef, such that upon return of the beef to ambient temperature and pressure, the gas or agent is released from the beef, thereby delaying the onset of bacterial growth and the formation of metmyoglobin on the beef.

218. The apparatus in the system of Claim 217.

219. The web in the system of Claim 217.

220. A method for processing or packaging beef in a web, comprising of a step in the processing or packaging of removing oxygen from in and around the beef, followed by the introduction of a suitable gas or agent into the beef at a suitable pressure and temperature, and for a suitable time period to cause the dissolution of the gas or agent into the beef, such that upon return of the beef to ambient temperature and pressure, the gas or agent is released from the beef, thereby delaying the onset of bacterial growth and the formation of metmyoglobin on the beef.

221. A method of processing and packaging meat according to a buyer's specifications, the method comprising:

receiving the buyer's specifications, including at least one variable selected from the group consisting of quantity, delivery time, fat content, and size,

automatically controlling at least one parameter of a meat processing train equipment to meet the buyer's specifications;

determining whether an estimated delivery time to the buyer's desired destination will exceed the amount of time which the meat can endure without substantially undergoing oxidation; and

packaging the meat in a master container when the estimated delivery time to the buyer's desired destination will be in excess of the amount of time which the meat can endure without substantially undergoing oxidation.

222. The method of Claim 221, further comprising packaging the meat in a master container if the estimated delivery time exceeds about 6 to 9 days.

223. The method of Claim 221, wherein the meat is selected from the group consisting of beef, fish, poultry and pork.

224. The method of Claim 221, further comprising the step of:

invoicing the buyer using a measuring device downstream of a meat grinder in the meat processing train.

225. The method of Claim 221, wherein the meat is processed in a controlled or modified atmosphere.

226. The method of Claim 225, wherein the meat is processed with predetermined concentrations of carbon dioxide.

227. A system for processing and packaging meat, according to a buyer's specifications, comprising:

a processing unit; and

a storage medium coupled to the processing unit, the storage medium containing programming code executed by the processing unit for automatically controlling the rate of at least one meat processing train variable to meet the buyer's specifications and determining whether an estimated delivery time to the buyer's desired destination will exceed the amount of time which the meat can endure

without substantially undergoing oxidation, and directing a packaging apparatus to package the meat in a master container when the estimated delivery time will be in excess of the amount of time which the meat can endure without substantially undergoing oxidation.

228. A method of processing meat, the method comprising:
grinding meat into an enclosed chamber that has been filled with a desirable gas and which substantially excludes oxygen,
adjusting the temperature of the meat, and
mixing the meat in at least one vessel which substantially excludes oxygen, so as to adjust the relative quantities of fat and lean meat to a desired ratio.

229. The method of Claim 228 further comprising the step of:
extruding the meat into a desired profile.

230. The method of Claim 228 further comprising the step of:
controlling the velocity of the at which the meat is extruded into the desired profile.

231. The method of Claim 228 further comprising the step of:
compressing the meat in an enclosure such that the carbon dioxide gas contained therein dissolves into the meat.

232. The method of Claim 228 further comprising the step of:
slicing the meat into desired portions.

233. The method of Claim 228 further comprising the step of:
packaging the meat in an environment that substantially excludes oxygen.

234. The method of Claim 229 further comprising the step of:
adjusting the velocity of the meat by measuring a distance between the measuring device and the point of mixing.

235. A web for finishing into a packaging tray, comprising:
a base with a groove defined around the perimeter,
a plurality of walls connected to the base, and

at least one flap connected by a hinge to an upper edge of at least one of the plurality of walls, wherein the flap contains a tab foldably connected to one edge of the flap such that on folding the tab, the tab can fit into the base groove.

236. A packaging tray; comprising:

a base with a groove defined around the perimeter;
a plurality of walls connected to the base, and

at least one flap connected by a hinge to an edge of at least one of the plurality of walls, wherein the flap contains a tab folded to create a securing device, wherein the tab is fitted within the base groove to hold the flap in place to form a double wall.

237. A method of producing webs for finishing into packaging trays, comprising the step of:

forming a web having a base with a groove defined around the perimeter and a plurality of walls attached to the base, the web having at least one flap connected by a hinge to an edge of at least one of the plurality of walls, wherein the flap contains a tab foldably connected to one edge of the flap such that on folding the tab, the tab can fit into the base groove to hold the flap in place to form a double wall.

238. A method of packaging, comprising:

providing a web for finishing into a packaging tray, the web comprising a base with a groove defined around the perimeter, a plurality of walls connected to the base, and at least one flap connected by a hinge to an edge of at least one of the plurality of walls, wherein the flap contains a tab foldably connected to one edge of the flap such that on folding the tab, the tab can fit into the base groove,

folding the tab, and

folding the flap so that the tab fits into the base groove.

239. A web for finishing into a packaging tray, comprising:

a base,

a plurality of walls connected to the base, wherein at least a first and second wall are connected to each other by a corrugated section, and

at least one flap connected by a hinge to an edge of at least one of the plurality of walls, the flap being foldable to form a double wall with at least one of the plurality of walls.

240. ~~A packaging tray, comprising:~~
a base,
a plurality of walls connected to the base, wherein at least a first and second wall are connected to each other by a corrugated section, and
at least one flap connected by a hinge to an edge of at least one of the plurality of walls, the flap being folded to form a double wall with at least one of the plurality of walls.

241. A method of producing webs for finishing into packaging trays, comprising the step of:

forming a web having a base, a plurality of walls connected to the base, wherein at least a first and second wall are connected to each other by a corrugated section, and at least one flap connected by a hinge to an edge of at least one of the plurality of walls, the flap being foldable to form a double wall with at least one of the plurality of walls.

242. ~~A method of packaging, comprising:~~
providing for a web having a base, a plurality of walls connected to the base, wherein at least a first and second wall are connected to each other by a corrugated section, and at least one flap connected by a hinge to an edge of at least one of the plurality of walls, the flap being foldable to form a double wall with at least one of the plurality of walls
folding the flaps, and
bonding the flaps to the walls to form double walls.

243. ~~A web for finishing into a packaging tray, comprising:~~
a base,
a plurality of walls connected to the base, wherein at least a first and second wall are connected to each other and to the base to form a corner; and
at least one flap connected by a hinge to an edge of at least one of the plurality of walls, the flap being foldable to form a double wall, the flap having a first and second end, with at least one of the ends having a portion shaped to conform to the corner when the flap is folded to form the double wall.

244. ~~A packaging tray, comprising:~~
a base,

a plurality of walls connected to the base, wherein at least a first and second wall are connected to each other and to the base to form a corner; and

at least one flap connected by a hinge to an edge of at least one of the plurality of walls, the flap being folded at the hinge to form a double wall, the flap having a first and second end, with at least one of the ends having a shaped portion that conforms to the corner, the shaped portion being bonded to the corner.

245. A method of producing webs for finishing into packaging trays, comprising the step of:

forming a web having a base, a plurality of walls connected to the base, wherein at least a first and second wall are connected to each other and to the base to form a corner; and at least one flap connected by a hinge to an edge of at least one of the plurality of walls, the flap being foldable to form a double wall, the flap having a first and second end, with at least one of the ends having a portion shaped to conform to the corner when the flap is folded to form the double wall.

246. A method of packaging, comprising:

providing for a web having a base, a plurality of walls connected to the base, wherein at least a first and second wall are connected to each other and to the base to form a corner, and at least one flap connected by a hinge to an edge of at least one of the plurality of walls, the flap being foldable to form a double wall, the flap having a first and second end, with at least one of the ends having a portion shaped to conform to the corner when the flap is folded to form the double wall,

folding the flap to form a double wall, and

bonding the flap end portion to the corner.

247. A web for finishing into a packaging tray, comprising:

a base,

a plurality of walls connected to the base, wherein at least a first and second wall are connected to each other and to the base; and

at least one flap connected by a hinge to an edge of at least one of the plurality of walls, the flap being foldable, the flap comprising a plurality of planar surfaces, wherein at least a first and second surface join at oblique or perpendicular angles to form a reinforcing structure.

248. A packaging tray, comprising:

a base,
a plurality of walls connected to the base, wherein at least a first and second wall are connected to each other and to the base; and
at least one flap connected by a hinge to an edge of at least one of the plurality of walls, the flap being foldable, the flap comprising a plurality of planar surfaces, wherein at least a first and second surface join at oblique or perpendicular angles to form a reinforcing structure.

249. A method of producing webs for finishing into packaging trays, comprising the step of:

forming a web having a base, a plurality of walls connected to the base, wherein at least a first and second wall are connected to each other and to the base; and at least one flap connected by a hinge to an edge of at least one of the plurality of walls, the flap being foldable, the flap comprising a plurality of planar surfaces, wherein at least a first and second surface join at oblique or perpendicular angles to form a reinforcing structure.

250. A method of packaging, comprising:

providing for a web having a base, a plurality of walls connected to the base, wherein at least a first and second wall are connected to each other and to the base; and at least one flap connected by a hinge to an edge of at least one of the plurality of walls, the flap being foldable, the flap comprising a plurality of planar surfaces, wherein at least a first and second surface join at oblique or perpendicular angles to form a reinforcing structure, and

folding the flap.

251. A method of processing meat, comprising the steps of:

providing a meat grinding machine for grinding meat,
providing a first conduit attached to the meat grinding machine to form a stream of meat,

providing a plurality of conduits for separating the first stream of meat into a plurality of meat streams,

independently adjusting the velocity or distance traveled of any one of the plurality of meat streams, and

combining the plurality of meat streams in a second conduit thusly blending the first stream of ground meat to form a second blended meat stream.

252. The method of Claim 251 further comprising the step of: providing a gas to substantially fill voids in the conduits.

253. The method of Claim 251, further comprising the steps of : continuously measuring a composition of the first stream, and adjusting the velocity of any one of the plurality of streams according to the measured composition of the first stream.

254. The method of Claim 253, wherein the measured composition is a measure of the fat, water, or protein content of the meat stream.

255. The method of Claim 251, wherein the first stream of meat defines a first and second zone wherein each zone has a substantially uniform composition in the lateral direction, but the composition of the first and second zone in a longitudinal direction has a first variation and the second blended meat stream defines a third zone comprising a blend of the first and second zone to reduce the variation.

256. An apparatus for processing meat, comprising:
a meat grinder for grinding meat,
a first conduit with a first and a second end, the conduit attached to the meat grinder at the first end for transferring a first stream of ground meat from the first end to the second end,
a plurality of conduits with respective first and second ends, the first end of each of the plurality of conduits attached to the first conduit thusly separating the first stream of ground meat into the plurality of conduits forming a plurality of streams of ground meat, and
a second conduit for attaching the second ends of each of the plurality of conduits to the second conduit for combining the plurality of ground meat streams, wherein the velocity or distance traveled of any one of the plurality of meat streams is independently adjustable.

257. The apparatus of Claim 256, further comprising:
a measuring device for measuring a composition of the first stream of ground meat and adjusting the velocity of any one of the plurality of meat streams according to the measured composition.

258. The method of Claim 256, wherein the first stream of meat defines a first and second zone wherein each zone has a substantially uniform composition in the lateral direction, but the composition of the first and second zone in a longitudinal direction has a first variation and the second blended meat stream defines a third zone comprising a blend of the first and second zones with a reduced variation.

259. A method for processing meat, comprising the steps of:
providing a substantially enclosed conduit, the conduit containing equipment for assembling a web into a finished tray and equipment for loading goods into the tray,

providing for a purge gas to fill the conduit,
loading goods onto an assembled tray, and
sealing the tray with goods to form a sealed package.

260. The method of Claim 259, further comprising the step of:
purging the conduit to less than 1000 parts per million of oxygen.

261. The method of Claim 259, wherein the conduit further contains a web forming apparatus for transferring the empty web to the conduit without substantially introducing oxygen to the conduit.

262. The method of Claim 259, further comprising the step of:
transferring the sealed package to ambient atmosphere without substantially introducing oxygen to the conduit.

263. The method of Claim 259, further comprising the step of:
storing the sealed tray at a temperature of lower than 40 degrees Fahrenheit.

264. An apparatus for processing meat, comprising:
a substantially enclosed conduit,
equipment for assembling a web into a finished tray contained within the conduit,
equipment for loading goods into the tray contained within the conduit,
wherein the conduit is purged with a gas.

265. The apparatus of Claim 264, further comprising:
equipment for forming a web and transferring the web to the conduit without
substantially introducing oxygen to the conduit.

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